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NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	JAN 02	STN pricing information for 2008 now available
NEWS	3	JAN 16	CAS patent coverage enhanced to include exemplified prophetic substances
NEWS	4	JAN 28	USPATFULL, USPAT2, and USPATOLD enhanced with new custom IPC display formats
NEWS	5	JAN 28	MARPAT searching enhanced
NEWS	6	JAN 28	USGENE now provides USPTO sequence data within 3 days of publication
NEWS	7	JAN 28	TOXCENTER enhanced with reloaded MEDLINE segment
NEWS	8	JAN 28	MEDLINE and LMEDLINE reloaded with enhancements
NEWS	9	FEB 08	STN Express, Version 8.3, now available
NEWS	10	FEB 20	PCI now available as a replacement to DPCI
NEWS	11	FEB 25	IFIREF reloaded with enhancements
NEWS	12	FEB 25	IMSPRODUCT reloaded with enhancements
NEWS	13	FEB 29	WPINDEX/WPIDS/WPIX enhanced with ECLA and current U.S. National Patent Classification
NEWS	14	MAR 31	IFICDB, IFIPAT, and IFIUDB enhanced with new custom IPC display formats
NEWS	15	MAR 31	CAS REGISTRY enhanced with additional experimental spectra
NEWS	16	MAR 31	CA/CAplus and CASREACT patent number format for U.S. applications updated
NEWS	17	MAR 31	LPCI now available as a replacement to LDPCI
NEWS	18	MAR 31	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS	19	APR 04	STN AnaVist, Version 1, to be discontinued
NEWS	20	APR 15	WPIDS, WPINDEX, and WPIX enhanced with new predefined hit display formats
NEWS	21	APR 28	EMBASE Controlled Term thesaurus enhanced
NEWS	22	APR 28	IMSRESEARCH reloaded with enhancements

NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3,
AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

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FILE 'HOME' ENTERED AT 00:39:23 ON 12 MAY 2008

=> file medline biosis, wpids, uspatful, dgene, embase, biotechds
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 0.21 0.21

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FILE 'BIOTECHDS' ENTERED AT 00:40:04 ON 12 MAY 2008
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=> s saccharomyces and (production of triacylglycerol)
3 FILES SEARCHED...
L1 31 SACCHAROMYCES AND (PRODUCTION OF TRIACYLGLYCEROL)

=> s l1 and (fatty acids)
L2 29 L1 AND (FATTY ACIDS)

=> s l2 and (nucleic acid)
4 FILES SEARCHED...
5 FILES SEARCHED...
L3 16 L2 AND (NUCLEIC ACID)

=> d l3 ti abs ibib tot

L3 ANSWER 1 OF 16 WPIDS COPYRIGHT 2008 THOMSON REUTERS on STN
TI Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content
AN 2004-122957 [12] WPIDS
AB WO 2004007727 A1 UPAB: 20060121
NOVELTY - Increasing total oil content in plant organism or tissue, organ, part, cell or its propagation material, by transgenic expressing triacylglycerols (TAG) synthesis enhancing protein (TEP) having fully defined sequence (S1) of 655 amino acids as given in specification from yeast in plant or in tissue, organ, part, cell or its propagation material, selecting plant having increased total oil content in comparison with control.
DETAILED DESCRIPTION - Increasing (M1) total oil content in plant organism or tissue, organ, part, cell or its propagation material, by

transgenic expressing triacylglycerols (TAG) synthesis enhancing protein (TEP) (I) having a fully defined sequence (S1) of 655 amino acids as given in the specification from yeast in plant organism or in tissue, organ, part, cell or its propagation material, selecting plant organisms in which total oil content in plant organism or in tissue, organ, part, cell or its propagation material is increased in contrast to or comparison with starting organism.

INDEPENDENT CLAIMS are also included for:

(1) a transgenic expression cassette (II) comprising a nucleic acid sequence (S2) of YJR098c gene having fully defined sequence of 2439 nucleotides as given in the specification operable linked to a promoter, which is functional in a plant organism or a tissue, organ, part or its cell;

(2) a transgenic vector (III) comprising (II) an expression an expression cassette; and

(3) a transgenic plant organism or tissue, organ, part, cell or its propagation material comprising (I) or (II) or (III).

USE - (M1) is useful for increasing total oil content in plant organism or tissue, organ, part, cell or its propagation material. A transgenic plant organism chosen from oil crops consisting of Borvago officinalis, Brassica campestris, B. napus, B. rapa, Cannabis sativa, Carthamus tinctorius, Cocos nucifera, Crambe abyssinica, Cuphea sp., Elaeis guinensis, E. oleifera, Glycine max, Gossypium hirsutum, G. barbadense, G. herbaceum, Helianthus annuus, Linum usitatissimum, Oenothera biennis, Olea europaea, Oryza sativa, Ricinus communis, Sesamum indicum, Triticum sp., Zea mays, walnut and almond or tissue, organ, part, cell or its propagation material is useful in the production of oils, fats, free fatty acids or its derivatives (all claimed). The transgenic plant is also useful for the production of food, feeds, seeds, pharmaceuticals, or fine chemicals, in particular for the production of oils.

ADVANTAGE - (M1) is efficient in increasing total oil content in organism or tissue, organ, plant, cell, or its propagation material.

ACCESSION NUMBER: 2004-122957 [12] WPIDS
DOC. NO. CPI: C2006-033014 [10]
DOC. NO. NON-CPI: N2006-078882 [10]

TITLE: Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content

DERWENT CLASS: C06; D13; D16; D23; P13

INVENTOR: BANAS A; DAHLQVIST A; GIPMANS M; LENMAN M; RONNE H; STAEHL U; STAHL U; STYMNE S; WIBERG E; STYMME S
PATENT ASSIGNEE: (BADI-C) BASF PLANT SCI GMBH

COUNTRY COUNT: 104

PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2004007727	A1	20040122	(200412)*	EN	46[0]	
AU 2003246361	A1	20040202	(200450)	EN		
EP 1521834	A1	20050413	(200525)	EN		
US 20060174373	A1	20060803	(200651)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2004007727	A1	WO 2003-EP7084	20030703

AU 2003246361 A1	AU 2003-246361 20030703
EP 1521834 A1	EP 2003-763694 20030703
EP 1521834 A1	WO 2003-EP7084 20030703
US 20060174373 A1	WO 2003-EP7084 20030703
US 20060174373 A1	US 2004-519943 20041229

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2003246361 A1	Based on	WO 2004007727 A
EP 1521834 A1	Based on	WO 2004007727 A

PRIORITY APPLN. INFO: EP 2002-15344 20020710

L3 ANSWER 2 OF 16 WPIDS COPYRIGHT 2008 THOMSON REUTERS on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content
AN 2000-665012 [64] WPIDS
AB WO 2000060095 A2 UPAB: 20050831
NOVELTY - An enzyme catalyzing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) a nucleotide sequence encoding the enzyme, or a partial nucleotide sequence corresponding to the full length nucleotide sequence that encodes the enzyme;
(2) a gene construct comprising the nucleotide sequence operably linked to a heterologous nucleic acid;
(3) a vector comprising the nucleotide sequence or the gene construct;
(4) a transgenic cell or organism containing the nucleotide sequence and/or the gene construct and/or the vector;
(5) a process for producing triacylglycerol comprising growing the transgenic cell organism under conditions where the nucleotide sequence is expressed; and
(6) triacylglycerol produced by the process of (5).
USE - The enzyme and the nucleotides encoding them are useful for producing triacylglycerol and/or triacyglycerol with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism.
ACCESSION NUMBER: 2000-665012 [64] WPIDS
DOC. NO. CPI: C2000-201465 [64]
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content
DERWENT CLASS: C06; D16; D23; E17; P13; P14
INVENTOR: BANAS A; DAHLQVIST A; LEDMAN M; LENMAN M; RONNE H; STAHL U; STYMNE S
PATENT ASSIGNEE: (BADI-C) BASF PLANT SCI GMBH
COUNTRY COUNT: 89

PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2000060095	A2	20001012	(200064)*	EN	97[6]	
AU 2000038147	A	20001023	(200107)	EN		
NO 2001004716	A	20011128	(200208)	NO		
EP 1165803	A2	20020102	(200209)	EN		
CZ 2001003529	A3	20020213	(200221)	CS		
BR 2000009510	A	20020423	(200235)	PT		
KR 2001112396	A	20011220	(200239)	KO		
SK 2001001387	A3	20020604	(200247)	SK		
HU 2002000480	A2	20020729	(200258)	HU		
JP 2002541783	W	20021210	(200301)	JA	90	
CN 1362994	A	20020807	(200304)	ZH		
NZ 514227	A	20031219	(200404)	EN		
MX 2001009577	A1	20030701	(200420)	ES		
AU 777031	B2	20040930	(200480)	EN		
RU 2272073	C2	20060320	(200620)	RU		
CN 1230541	C	20051207	(200654)	ZH		
EP 1165803	B1	20070307	(200720)	EN		
DE 60033793	E	20070419	(200729)	DE		
ES 2283294	T3	20071101	(200774)	ES		
DE 60033793	T2	20071206	(200782)	DE		
IL 145307	A	20071203	(200819)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000060095	A2	WO 2000-EP2701	20000328
AU 2000038147	A	AU 2000-38147	20000328
AU 777031	B2	AU 2000-38147	20000328
BR 2000009510	A	BR 2000-9510	20000328
CN 1362994	A	CN 2000-805998	20000328
CN 1230541	C	CN 2000-805998	20000328
DE 60033793	E	DE 2000-60033793	20000328
DE 60033793	T2	DE 2000-60033793	20000328
EP 1165803	A2	EP 2000-917001	20000328
EP 1165803	B1	EP 2000-917001	20000328
DE 60033793	E	EP 2000-917001	20000328
ES 2283294	T3	EP 2000-917001	20000328
DE 60033793	T2	EP 2000-917001	20000328
JP 2002541783	W	JP 2000-609586	20000328
NZ 514227	A	NZ 2000-514227	20000328
NO 2001004716	A	WO 2000-EP2701	20000328
EP 1165803	A2	WO 2000-EP2701	20000328
CZ 2001003529	A3	WO 2000-EP2701	20000328
BR 2000009510	A	WO 2000-EP2701	20000328
SK 2001001387	A3	WO 2000-EP2701	20000328
HU 2002000480	A2	WO 2000-EP2701	20000328
JP 2002541783	W	WO 2000-EP2701	20000328
NZ 514227	A	WO 2000-EP2701	20000328
MX 2001009577	A1	WO 2000-EP2701	20000328
RU 2272073	C2	WO 2000-EP2701	20000328
EP 1165803	B1	WO 2000-EP2701	20000328
DE 60033793	E	WO 2000-EP2701	20000328
DE 60033793	T2	WO 2000-EP2701	20000328
CZ 2001003529	A3	CZ 2001-3529	20000328
RU 2272073	C2	RU 2001-129499	20000328
SK 2001001387	A3	SK 2001-1387	20000328
MX 2001009577	A1	MX 2001-9577	20010924

NO 2001004716 A		NO 2001-4716 20010928
KR 2001112396 A		KR 2001-712623 20010929
HU 2002000480 A2		HU 2002-480 20000328
IL 145307 A		IL 2000-145307 20000328

FILING DETAILS:

PATENT NO	KIND		PATENT NO	
AU 777031	B2	Previous Publ	AU 2000038147	A
DE 60033793	E	Based on	EP 1165803	A
ES 2283294	T3	Based on	EP 1165803	A
DE 60033793	T2	Based on	EP 1165803	A
AU 2000038147	A	Based on	WO 2000060095	A
EP 1165803	A2	Based on	WO 2000060095	A
CZ 2001003529	A3	Based on	WO 2000060095	A
BR 2000009510	A	Based on	WO 2000060095	A
SK 2001001387	A3	Based on	WO 2000060095	A
HU 2002000480	A2	Based on	WO 2000060095	A
JP 2002541783	W	Based on	WO 2000060095	A
NZ 514227	A	Based on	WO 2000060095	A
MX 2001009577	A1	Based on	WO 2000060095	A
AU 777031	B2	Based on	WO 2000060095	A
RU 2272073	C2	Based on	WO 2000060095	A
EP 1165803	B1	Based on	WO 2000060095	A
DE 60033793	E	Based on	WO 2000060095	A
DE 60033793	T2	Based on	WO 2000060095	A
IL 145307	A	Based on	WO 2000060095	A

PRIORITY APPLN. INFO: US 2000-180687P 20000207
EP 1999-106656 19990401
EP 1999-111321 19990610

L3 ANSWER 3 OF 16 USPATFULL on STN

TI Process for the production of fine chemicals

AB The present invention relates to a process for the production of the fine chemical in a microorganism, a plant cell, a plant, a plant tissue or in one or more parts thereof, preferably in plastids. The invention furthermore relates to nucleic acid molecules, polypeptides, nucleic acid constructs, vectors, antibodies, host cells, plant tissue, propagation material, harvested material, plants, microorganisms as well as agricultural compositions and to their use.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2007:136231 USPATFULL
TITLE: Process for the production of fine chemicals
INVENTOR(S): Puzio, Piotr, Berlin, GERMANY, FEDERAL REPUBLIC OF
Wendel, Birgit, Berlin, GERMANY, FEDERAL REPUBLIC OF
Herold, Michael Manfred, Berlin, GERMANY, FEDERAL REPUBLIC OF
Looser, Ralf, Berlin, GERMANY, FEDERAL REPUBLIC OF
Blau, Astrid, Stahnsdorf, GERMANY, FEDERAL REPUBLIC OF
Plesch, Gunnar, Potsdam, GERMANY, FEDERAL REPUBLIC OF
Kamlage, Beate, Berlin, GERMANY, FEDERAL REPUBLIC OF
Schauwecker, Florian, Berlin, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): Metanomics GmbH, Berlin, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE

PATENT INFORMATION: US 2007118916 A1 20070524
APPLICATION INFO.: US 2006-516230 A1 20060906 (11)

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2006-110426	20060224
	EP 2006-110579	20060228
	EP 2006-110425	20060224
	EP 2006-110423	20060224
	EP 2006-110418	20060224
	EP 2006-110383	20060224
	EP 2006-110378	20060224
	EP 2006-110367	20060224
	EP 2006-110327	20060223
	EP 2006-110325	20060223
	EP 2006-110959	20060224
	EP 2006-110289	20060222
	EP 2006-110005	20060216
	EP 2006-110215	20060221
	EP 2006-110211	20060214
	EP 2006-110968	20060217
	EP 2006-101589	20060207
	EP 2005-113027	20051222
	EP 2005-112431	20051215
	EP 2005-112039	20051212
	EP 2005-111910	20051201
	EP 2005-111170	20051117
	EP 2005-110441	20051108
	EP 2005-110433	20051107
	EP 2005-109592	20051014

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Connolly Bove Lodge & Hutz LLP, 1007 North Orange Street, P.O. Box 2207, Wilmington, DE, 19899, US
NUMBER OF CLAIMS: 34
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 4 Drawing Page(s)
LINE COUNT: 80479
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 4 OF 16 USPATFULL on STN
TI Diacylglycerol acyltransferase genes, proteins, and uses thereof
AB The present invention relates to diacylglycerol acyltransferase genes and proteins, and methods of their use. In particular, the invention describes genes and proteins that exhibit both long-chain acyltransferase and acetyltransferase activity. The present invention encompasses both native and recombinant wild-type forms of the transferase, as well as mutants and variant forms, some of which possess altered characteristics relative to the wild-type transferase. The present invention also relates to methods of using diacylglycerol acyltransferase genes and proteins, including in their expression in transgenic organisms and in the production of acetyl-glycerides in plant oils, and in particular seed oils.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2007:32051 USPATFULL
TITLE: Diacylglycerol acyltransferase genes, proteins, and uses thereof
INVENTOR(S): Milcamps, Anne, Gavirate (Voltorre), ITALY
Pan, David A., Tayside, UNITED KINGDOM
Pollard, Michael R., Okemos, MI, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2007028329	A1	20070201
APPLICATION INFO.:	US 2006-541881	A1	20061002 (11)
RELATED APPLN. INFO.:	Division of Ser. No. US 2004-859247, filed on 2 Jun 2004, GRANTED, Pat. No. US 7122367		

	NUMBER	DATE
PRIORITY INFORMATION:	US 2003-475371P	20030603 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94105, US
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1-8
NUMBER OF DRAWINGS: 7 Drawing Page(s)
LINE COUNT: 4527
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 5 OF 16 USPATFULL on STN
TI Trans-2-enoyl-coa reductase gene of euglena gracilis
AB The invention relates to the identification and use of a nucleic acid sequence SEQ ID NO: 1 from Euglena gracilis that when expressed will increase the total amount of oil (i.e. triacylglycerols, diacylglycerols, monoacylglycerols, phospholipids, waxesters and/or fatty acids) that is produced in transgenic organisms.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2007:25451 USPATFULL
TITLE: Trans-2-enoyl-coa reductase gene of euglena gracilis
INVENTOR(S): Cirpus, Petra, Mannheim, GERMANY, FEDERAL REPUBLIC OF
Oswald, Oliver, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF
Lerchi, Jens, Svalov, SWEDEN
Martin, William Frank, Neuss, GERMANY, FEDERAL REPUBLIC OF
Hoffmeister, Meike, Dusseldorf, GERMANY, FEDERAL REPUBLIC OF
PATENT ASSIGNEE(S): BASF Plant Science GmbH, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF, 67056 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2007022497	A1	20070125
APPLICATION INFO.:	US 2004-574902	A1	20041008 (10)
	WO 2004-EP11294		20041008
			20060407 PCT 371 date

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Page(s)
LINE COUNT: 4105
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 6 OF 16 USPATFULL on STN
TI Use of genes for increasing the oil content in plants

AB The invention relates to methods for increasing the oil content in plants, preferably in plant seeds, by expressing the Ypr140w polypeptide from yeast or corresponding polypeptides from plants. The invention furthermore relates to expression constructs for expressing the yeast polypeptide Ypr140w or corresponding polypeptides from plants in plants, preferably in plant seeds, the transgenic plants expressing the polypeptide and to the use of said transgenic plants for the production of food, feed, seed, pharmaceuticals or fine chemicals, in particular for the production of oils.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2006:242512 USPATFULL
TITLE: Use of genes for increasing the oil content in plants
INVENTOR(S): Cirpus, Petra, Mannheim, GERMANY, FEDERAL REPUBLIC OF
Oswald, Oliver, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF
Ronne, Hans, Uppsala, SWEDEN
Dahlqvist, Anders, Furulund, GERMANY, FEDERAL REPUBLIC OF
Lenman, Marit, Lund, SWEDEN
Neal, Andrea, Uppsala, SWEDEN
Stahl, Ulf, Uppsala, SWEDEN
Liu, Tao, Solna, SWEDEN
Banas, Antoni, Siedlce, POLAND
Wiberg, Eva, Uppsala, SWEDEN
PATENT ASSIGNEE(S): BASF Plant Science GmbH, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF, 67056 (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2006206961	A1	20060914	
APPLICATION INFO.:	US 2004-553303	A1	20040413	(10)
	WO 2004-EP3845		20040413	
			20051014	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2003-8909	20030416

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Page(s)
LINE COUNT: 2628
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 7 OF 16 USPATFULL on STN
TI Use of a gene for increasing the oil content in plants
AB The invention relates to methods for increasing the oil content in plants, preferably in plant seeds, by expressing a polypeptide from yeast. The invention furthermore relates to expression constructs for expressing the yeast polypeptide in plants, preferably in plant seeds, the transgenic plants expressing the yeast polypeptide and to the use of said transgenic plants for the production of food, feeds, seed, pharmaceuticals or fine chemicals, in particular for the production of oils.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2006:204486 USPATFULL

TITLE: Use of a gene for increasing the oil content in plants
INVENTOR(S): Gipmans, Martijn, Potsdam, GERMANY, FEDERAL REPUBLIC OF
Dahlqvist, Anders, Furulund, SWEDEN
Banas, Antoni, Siedlce, POLAND
Stahl, Ulf, Uppsala, SWEDEN
Wiberg, Eva, Uppsala, SWEDEN
Lenman, Marit, Lund, SWEDEN
Ronne, Hans, Uppsala, SWEDEN
Stymme, Sten, Svalov, SWEDEN
PATENT ASSIGNEE(S): BASF Plant Science GmbH, Ludwigshafen, GERMANY, FEDERAL REPUBLIC OF (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2006174373	A1	20060803	
APPLICATION INFO.:	US 2003-519943	A1	20030703	(10)
	WO 2003-EP7084		20030703	
			20041229	PCT 371 date

	NUMBER	DATE
PRIORITY INFORMATION:	EP 2002-15344	20020710

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: CONNOLLY BOVE LODGE & HUTZ, LLP, P O BOX 2207, WILMINGTON, DE, 19899, US
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
LINE COUNT: 1460
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 8 OF 16 USPATFULL on STN
TI Diacylglycerol acyltransferase genes, proteins, and uses thereof
AB The present invention relates to diacylglycerol acyltransferase genes and proteins, and methods of their use. In particular, the invention describes genes and proteins that exhibit both long-chain acyltransferase and acetyltransferase activity. The present invention encompasses both native and recombinant wild-type forms of the transferase, as well as mutants and variant forms, some of which possess altered characteristics relative to the wild-type transferase. The present invention also relates to methods of using diacylglycerol acyltransferase genes and proteins, including in their expression in transgenic organisms and in the production of acetyl-glycerides in plant oils, and in particular seed oils.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2005:151372 USPATFULL
TITLE: Diacylglycerol acyltransferase genes, proteins, and uses thereof
INVENTOR(S): Milcamps, Anne, Gavirate, ITALY
Pan, David A., Tayside, UNITED KINGDOM
Pollard, Michael R., Okemos, MI, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2005130284	A1	20050616	
	US 7122367	B2	20061017	
APPLICATION INFO.:	US 2004-859247	A1	20040602	(10)

	NUMBER	DATE

PRIORITY INFORMATION: US 2003-475371P 20030603 (60)
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: MEDLEN & CARROLL, LLP, Suite 350, 101 Howard Street, San Francisco, CA, 94105, US
NUMBER OF CLAIMS: 25
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 7 Drawing Page(s)
LINE COUNT: 4586
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 9 OF 16 USPATFULL on STN
TI Use of class enzymes and their encoding genes to increase the oil content in transgenic organisms
AB The present invention relates to the use of a novel enzyme and its encoding gene for transformation. More specifically, the invention relates to the use of a gene encoding an enzyme with acyl-CoA: diacylglycerol acyltransferase activity. This gene expressed alone in transgenic organisms will increase the total amount of oil (i.e. triacylglycerols) that is produced.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2005:6218 USPATFULL
TITLE: Use of class enzymes and their encoding genes to increase the oil content in transgenic organisms
INVENTOR(S): Banas, Antoni, Siedlce, POLAND
Sandager, Line, Copenhagen, DENMARK
Stahl, Ulf, Uppsala, SWEDEN
Dahlqvist, Anders, Furulund, SWEDEN
Lenman, Marit, Lund, SWEDEN
Ronne, Hans, Uppsala, SWEDEN
Stymne, Sten, Svalov, SWEDEN
PATENT ASSIGNEE(S): SCANDINAVIAN BIOTECHNOLOGY RESEARCH (SCANBI) AB, SVALOV, SWEDEN (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005005326	A1	20050106
APPLICATION INFO.:	US 2004-853268	A1	20040526 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 2000-709457, filed on 13 Nov 2000, GRANTED, Pat. No. US 6791008

	NUMBER	DATE
PRIORITY INFORMATION:	EP 1999-850169	19991112
	US 1999-164859P	19991112 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: YOUNG & THOMPSON, 745 SOUTH 23RD STREET, 2ND FLOOR, ARLINGTON, VA, 22202
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 729
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 10 OF 16 USPATFULL on STN
TI Use of a class of enzymes and their encoding genes to increase the oil content in transgenic organisms
AB The present invention relates to the use of a novel enzyme and its encoding gene for transformation. More specifically, the invention

relates to the use of a gene encoding an enzyme with acyl-CoA:diacylglycerol acyltransferase activity. This gene expressed alone in transgenic organisms will increase the total amount of oil (i.e. triacylglycerols) that is produced.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2004:229803 USPATFULL
TITLE:	Use of a class of enzymes and their encoding genes to increase the oil content in transgenic organisms
INVENTOR(S):	Banas, Antoni, Siedlce, POLAND Sandager, Line, Copenhagen, DENMARK St.ang.hl, Ulf, Uppsala, SWEDEN Dahlqvist, Anders, Furulund, SWEDEN Lenman, Marit, Lund, SWEDEN Ronne, Hans, Uppsala, SWEDEN Stymne, Sten, Svalov, SWEDEN
PATENT ASSIGNEE(S):	Scandinavian Biotechnology Research (ScanBi) AB, Svalov, SWEDEN (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6791008	B1	20040914	
APPLICATION INFO.:	US 2000-709457		20001113	(9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 1999-164859P	19991112 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Fox, David T.
ASSISTANT EXAMINER:	Kallis, Russell
LEGAL REPRESENTATIVE:	Young & Thompson
NUMBER OF CLAIMS:	11
EXEMPLARY CLAIM:	10
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT:	787

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 11 OF 16 USPATFULL on STN

TI Diacylglycerol acyltransferase nucleic acid sequences and associated products

AB The present invention is directed to polypeptides and nucleic acid sequences related thereto, and methods to purify, obtain, and use such molecules in genetic engineering applications. More specifically, the present invention relates to polypeptides associated with the production of triacylglycerols in plants and fungi.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2004:140283 USPATFULL
TITLE:	Diacylglycerol acyltransferase nucleic acid sequences and associated products
INVENTOR(S):	Lardizabal, Kathryn D., Woodland, CA, UNITED STATES Bennett, Kristen A., Davis, CA, UNITED STATES Wagner, Nicholas W., Sacramento, CA, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2004107459	A1	20040603	
APPLICATION INFO.:	US 2003-631581	A1	20030731	(10)

	NUMBER	DATE

PRIORITY INFORMATION:	US 2002-399427P	20020731 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	Renessen LLC, Legal Department - Intellectual Property, Suite 300 South, 3000 Lakeside Drive, Bannockburn, IL, 60015	
NUMBER OF CLAIMS:	18	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	11 Drawing Page(s)	
LINE COUNT:	2658	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 12 OF 16 USPATFULL on STN

TI Diacylglycerol acyl transferase proteins

AB The invention provides diacylglycerol acyltransferase (DAGAT) proteins, wherein said proteins are active in the formation of triacylglycerol from fatty acyl and diacylglycerol substrates. In one aspect, Mortierella ramanniana DAGAT proteins have been isolated and have molecular weights of between approximately 36 and 37 kDa as measured by SDS-PAGE. The invention also provides novel DAGAT polynucleotide and polypeptide sequences and to methods of producing such polypeptides using recombinannt techniques. In addition, methods are provided for using such sequences to alter triacylglycerol levels in plants and to treat diseases associated with altered DAGAT activity or expression.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2003:167771 USPATFULL		
TITLE:	Diacylglycerol acyl transferase proteins		
INVENTOR(S):	Lardizabal, Kathryn Dennis, Woodland, CA, UNITED STATES Thompson, Gregory A., Clarkston, WA, UNITED STATES Hawkins, Deborah, Davis, CA, UNITED STATES		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003115632	A1	20030619
	US 7135617	B2	20061114
APPLICATION INFO.:	US 2002-208018	A1	20020731 (10)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 2002-121857, filed on 15 Apr 2002, PENDING Continuation of Ser. No. US 1999-345461, filed on 30 Jun 1999, ABANDONED		
	NUMBER		DATE
PRIORITY INFORMATION:	US 1998-91631P		19980702 (60)
	US 1999-130829P		19990423 (60)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	ARNOLD & PORTER, IP DOCKETING DEPARTMENT, RM 1126(b), 555 12TH STREET, N.W., WASHINGTON, DC, 20004-1206		
NUMBER OF CLAIMS:	48		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	29 Drawing Page(s)		
LINE COUNT:	4596		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 13 OF 16 USPATFULL on STN

TI Diacylglycerol acyl transferase proteins

AB The invention provides diacylglycerol acyltransferase (DAGAT) proteins, wherein said proteins are active in the formation of triacylglycerol from fatty acyl and diacylglycerol substrates. In one aspect,

Mortierella ramanniana DAGAT proteins have been isolated and have molecular weights of between approximately 36 and 37 kDa as measured by SDS-PAGE. The invention also provides novel DAGAT polynucleotide and polypeptide sequences and to methods of producing such polypeptides using recombinant techniques. In addition, methods are provided for using such sequences to alter triacylglycerol levels in plants and to treat diseases associated with altered DAGAT activity or expression.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2003:39274 USPATFULL		
TITLE:	Diacylglycerol acyl transferase proteins		
INVENTOR(S):	Lardizabal, Kathryn Dennis, Woodland, CA, UNITED STATES Thompson, Gregory A., Clarkston, WA, UNITED STATES Hawkins, Deborah, Davis, CA, UNITED STATES		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003028923	A1	20030206
	US 6822141	B2	20041123
APPLICATION INFO.:	US 2002-121857	A1	20020415 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-345461, filed on 30 Jun 1999, PENDING		
	NUMBER	DATE	
PRIORITY INFORMATION:	US 1998-91631P	19980702 (60)	
	US 1999-130829P	19990423 (60)	
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	ARNOLD & PORTER, IP DOCKETING DEPARTMENT, RM 1126(b), 555 12TH STREET, N.W., WASHINGTON, DC, 20004-1206		
NUMBER OF CLAIMS:	48		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	16 Drawing Page(s)		
LINE COUNT:	3416		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 14 OF 16 USPATFULL on STN

TI Plant phosphatidic acid phosphatases

AB By this invention, novel nucleic acid sequences encoding for phosphatidic acid phosphatase (PAP) proteins are provided, wherein PAP protein is active in the formation of diacylglycerol from phosphatidic acid. Also considered are amino acid and nucleic acid sequences obtainable from PAP nucleic acid sequences and the use of such sequences to provide transgenic host cells capable of producing altered lipid compositions and total lipid levels.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2002:332863 USPATFULL		
TITLE:	Plant phosphatidic acid phosphatases		
INVENTOR(S):	Lassner, Michael W., Davis, CA, United States Ruezinsky, Diane M., Woodland, CA, United States		
PATENT ASSIGNEE(S):	Calgene LLC, Davis, CA, United States (U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6495739	B1	20021217
APPLICATION INFO.:	US 1999-360376		19990723 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1998-122315, filed		

on 24 Jul 1998
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: McElwain, Elizabeth F.
LEGAL REPRESENTATIVE: Arnold & Porter, Stierwalt, Brian K.
NUMBER OF CLAIMS: 74
EXEMPLARY CLAIM: 9
NUMBER OF DRAWINGS: 18 Drawing Figure(s); 18 Drawing Page(s)
LINE COUNT: 2336
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 15 OF 16 USPATFULL on STN
TI Plant phosphatidic acid phosphatases
AB By this invention, novel nucleic acid sequences encoding for phosphatidic acid phosphatase (PAP) proteins are provided, wherein said PAP protein is active in the formation of diacylglycerol from phosphatidic acid. Also considered are amino acid and nucleic acid sequences obtainable from PAP nucleic acid sequences and the use of such sequences to provide transgenic host cells capable of producing altered lipid compositions and total lipid levels.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2002:291132 USPATFULL
TITLE: Plant phosphatidic acid phosphatases
INVENTOR(S): Lassner, Michael W., Davis, CA, United States
Ruezinsky, Diane M., Woodland, CA, United States
PATENT ASSIGNEE(S): Calgene LLC, Davis, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6476294	B1	20021105
APPLICATION INFO.:	US 1998-122315		19980724 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: McElwain, Elizabeth F.
LEGAL REPRESENTATIVE: Arnold & Porter
NUMBER OF CLAIMS: 24
EXEMPLARY CLAIM: 14
NUMBER OF DRAWINGS: 10 Drawing Figure(s); 10 Drawing Page(s)
LINE COUNT: 1435
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 16 OF 16 BIOTECHDS COPYRIGHT 2008 THOMSON REUTERS on STN
TI Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content;
involving transgenic plant construction and tissue culture propagation
AN 2004-07840 BIOTECHDS
AB DERWENT ABSTRACT:
NOVELTY - Increasing total oil content in plant organism or tissue, organ, part, cell or its propagation material, by transgenic expressing triacylglycerols (TAG) synthesis enhancing protein (TEP) having fully defined sequence (S1) of 655 amino acids as given in specification from yeast in plant or in tissue, organ, part, cell or its propagation material, selecting plant having increased total oil content in comparison with control.
DETAILED DESCRIPTION - Increasing (M1) total oil content in plant organism or tissue, organ, part, cell or its propagation material, by

transgenic expressing triacylglycerols (TAG) synthesis enhancing protein (TEP) (I) having a fully defined sequence (S1) of 655 amino acids as given in the specification from yeast in plant organism or in tissue, organ, part, cell or its propagation material, selecting plant organisms in which total oil content in plant organism or in tissue, organ, part, cell or its propagation material is increased in contrast to or comparison with starting organism. INDEPENDENT CLAIMS are also included for: (1) a transgenic expression cassette (II) comprising a nucleic acid sequence (S2) of YJR098c gene having fully defined sequence of 2439 nucleotides as given in the specification operable linked to a promoter, which is functional in a plant organism or a tissue, organ, part or its cell; (2) a transgenic vector (III) comprising (II) an expression an expression cassette; and (3) a transgenic plant organism or tissue, organ, part, cell or its propagation material comprising (I) or (II) or (III).

WIDER DISCLOSURE - (1) reducing TEP in a host cell or its progeny including genetically engineered oil seeds, yeast and moulds or any other oil-accumulating organism; and (2) elevating the production of triacylglycerol.

BIOTECHNOLOGY - Preferred Method: In (M1), the polypeptide from yeast has sequence (S1) or has functional equivalent amino acid sequence with at least 60% homology of (S1). The plant is an oil crop and the total oil content in the seed of a plant is increased. Preferred Expression Cassette: In (II), the nucleic acid sequence has sequence (S2) or sequence derived from (S2) in accordance with the degeneracy of the genetic code or sequence which has at least 60% identity with (S2). The promoter is a seed-specific promoter.

USE - (M1) is useful for increasing total oil content in plant organism or tissue, organ, part, cell or its propagation material. A transgenic plant organism chosen from oil crops consisting of Borvago officinalis, Brassica campestris, B. napus, B. rapa, Cannabis sativa, Carthamus tinctorius, Cocos nucifera, Crambe abyssinica, Cuphea sp., Elaeis guinensis, E. oleifera, Glycine max, Gossypium hirsutum, G. barbadense, G. herbaceum, Helianthus annuus, Linum usitatissimum, Oenothera biennis, Olea europaea, Oryza sativa, Ricinus communis, Sesamum indicum, Triticum sp., Zea mays, walnut and almond or tissue, organ, part, cell or its propagation material is useful in the production of oils, fats, free fatty acids or its derivatives (all claimed). The transgenic plant is also useful for the production of food, feeds, seeds, pharmaceuticals, or fine chemicals, in particular for the production of oils.

ADVANTAGE - (M1) is efficient in increasing total oil content in organism or tissue, organ, plant, cell, or its propagation material.

EXAMPLE - Transgenic plants expressing YJR098c gene of tyriacylglycerols (TAG) synthesis enhancing protein (TEP) derived from Saccharomyces cerevisiae was generated as follows for induced high level expression of the YJR098c gene in plants, a PCR fragment (2409 base pair (bp)) was generated by the 5' primer (cttgtagaggtttgggga) and the 3' primer (tgaattgtcctcgctgtcaa) adding 29 bases upstream of the gene and 442 bases downstream of the gene. The gene was cloned into the SmaI site of the vapor pUC119 thus generating pUS 29. For Agrobacterium mediated plant transformation a binary vector system including the primary cloning vector pART7 with a CaMV35S promoter and a pART27 vector were used. The YJR098c fragment were excised from pUS 29 at the XbaI and SacI site and then blunted into the pART7 vector with either the CaMV35S promoter, generating pEW 17 or with the napin promoter, generating pEW 14. The entire cartridge including the promoter, the YJR098c gene and a transcriptional termination region were removed from the pART7 vector as a NotI fragment and introduced directly to the pART7 vector. The plasmid was transformed into A. tumefaciens. Plant of Arabidopsis thaliana were transformed with A. tumefacines GV3101 harboring either of the plasmids

pEWART27-14 and pEWART27-17. Entire plant (inflorescence and rosette) were submerged for 20-30 second in the infiltration media consisting of 5% sucrose and 0.02% Silwet L-77 with resuspended transformed A. tumefaciens cells. Plant were then transferred to a growth chamber with a photoperiod of 16 hour of light at 21 degreesC and 8 hour of dark at 18degreesC (70% humidity). The seed oil content of T2 plants of the Arabidopsis transformants was analyzed by the use of conventional gas-liquid chromatography (GLC). As controls, seeds from wild type plants were used. The level of expression of the YJR098c gene in the seeds was determined by Northern blot analysis. The result of the measurement for the lines comprising the YJR098c construct showed a significantly higher total oil content in transgenic lines compared to the measurement of wild type plants.(46 pages)

ACCESSION NUMBER: 2004-07840 BIOTECHDS
TITLE: Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content; involving transgenic plant construction and tissue culture propagation
AUTHOR: GIPMANS M; DAHLQVIST A; BANAS A; STAEHL U; WIBERG E; LENMAN M; RONNE H; STYMNE S
PATENT ASSIGNEE: BASF PLANT SCI GMBH
PATENT INFO: WO 2004007727 22 Jan 2004
APPLICATION INFO: WO 2003-EP7084 3 Jul 2003
PRIORITY INFO: EP 2002-15344 10 Jul 2002; EP 2002-15344 10 Jul 2002
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2004-122957 [12]

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ENTERED AT 00:40:04 ON 12 MAY 2008
L1 31 S SACCHAROMYCES AND (PRODUCTION OF TRIACYLGLYCEROL)
L2 29 S L1 AND (FATTY ACIDS)
L3 16 S L2 AND (NUCLEIC ACID)

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E2 1 SAHLQVIST PHIL/AU
E3 0 --> SAHLQVIST, A/AU
E4 20 SAHLROOT J T/AU

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E7            3     SAHLROOT TODD/AU
E8            1     SAHLSTEDT/AU
E9            1     SAHLSTEDT A V/AU
E10          91     SAHLSTEDT B/AU
E11          11     SAHLSTEDT BO/AU
E12           1     SAHLSTEDT H/AU

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     (FILE 'HOME' ENTERED AT 00:39:23 ON 12 MAY 2008)

     FILE 'MEDLINE, BIOSIS, WPIDS, USPATFULL, DGENE, EMBASE, BIOTECHDS'
     ENTERED AT 00:40:04 ON 12 MAY 2008
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L2            29 S L1 AND (FATTY ACIDS)
L3            16 S L2 AND (NUCLEIC ACID)
                 E SAHLQVIST, A/AU

=> e dahlqvist, a/au
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E2            4     DAHLQVIST VERA/AU
E3            0 --> DAHLQVIST, A/AU
E4            1     DAHLREN R A/AU
E5            1     DAHLROTH/AU
E6            1     DAHLROTH S/AU
E7           11     DAHLROTH SUE LI/AU
E8            1     DAHLRUP H/AU
E9            1     DAHLS S/AU
E10           1     DAHLSEID/AU
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L2            29 S L1 AND (FATTY ACIDS)
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E5            1     BANASAL N K/AU
E6            1     BANASAZ/AU
E7            8     BANASAZ M/AU
E8            6     BANASAZ MAHANEZ/AU
E9            2     BANASAZ MAHNAZ/AU
E10           1     BANASAZK LEONARD J/AU
E11           1     BANASCFAEWSKI T DR/AU
E12           1     BANASCH B/AU

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L1           31 S SACCHAROMYCES AND (PRODUCTION OF TRIACYLGLYCEROL)
L2           29 S L1 AND (FATTY ACIDS)
L3           16 S L2 AND (NUCLEIC ACID)
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                E BANAS, A/AU

=> d l1 ti tot

L1   ANSWER 1 OF 31  BIOSIS  COPYRIGHT (c) 2008 The Thomson Corporation  on STN
TI   CONDITIONS FOR FAT PRODUCTION BY A RECOMBINANT STRAIN OF YEAST.

L1   ANSWER 2 OF 31  WPIDS COPYRIGHT 2008       THOMSON REUTERS on STN
TI   Increasing total oil content in plant or its propagation material, by
     transgenically expressing a triacylglycerol-synthesis enhancing protein
     from yeast in plant, and selecting plants having increased total oil
     content

L1   ANSWER 3 OF 31  WPIDS COPYRIGHT 2008       THOMSON REUTERS on STN
TI   Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic
     pathway for triacylglycerol production and DNAs encoding them, useful for
     producing triacylglycerol, or for transforming any cell or organism to
     increase oil content

L1   ANSWER 4 OF 31  USPATFULL on STN
TI     Process for the production of fine chemicals

L1   ANSWER 5 OF 31  USPATFULL on STN
TI     Diacylglycerol acyltransferase genes, proteins, and uses thereof

L1   ANSWER 6 OF 31  USPATFULL on STN
TI     Trans-2-enoyl-coa reductase gene of euglena gracilis

L1   ANSWER 7 OF 31  USPATFULL on STN
TI     Use of genes for increasing the oil content in plants

L1   ANSWER 8 OF 31  USPATFULL on STN
TI     Use of a gene for increasing the oil content in plants

L1   ANSWER 9 OF 31  USPATFULL on STN
TI     Diacylglycerol acyltransferase genes, proteins, and uses thereof

L1   ANSWER 10 OF 31  USPATFULL on STN
TI     Use of class enzymes and their encoding genes to increase the oil
       content in transgenic organisms

L1   ANSWER 11 OF 31  USPATFULL on STN
TI     Use of a class of enzymes and their encoding genes to increase the oil
       content in transgenic organisms

L1   ANSWER 12 OF 31  USPATFULL on STN
TI     Diacylglycerol acyltransferase nucleic acid sequences and associated
       products

L1   ANSWER 13 OF 31  USPATFULL on STN
TI     Diacylglycerol acyl transferase proteins
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L1 ANSWER 14 OF 31 USPATFULL on STN
TI Diacylglycerol acyl transferase proteins

L1 ANSWER 15 OF 31 USPATFULL on STN
TI Roselipin Derivative

L1 ANSWER 16 OF 31 USPATFULL on STN
TI Plant phosphatidic acid phosphatases

L1 ANSWER 17 OF 31 USPATFULL on STN
TI Plant phosphatidic acid phosphatases

L1 ANSWER 18 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.

L1 ANSWER 19 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 20 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 21 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 22 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 23 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.

L1 ANSWER 24 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.

L1 ANSWER 25 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.

L1 ANSWER 26 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 27 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 28 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 29 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 30 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -

L1 ANSWER 31 OF 31 BIOTECHDS COPYRIGHT 2008 THOMSON REUTERS on STN
TI Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content;
    involving transgenic plant construction and tissue culture propagation

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     (FILE 'HOME' ENTERED AT 00:39:23 ON 12 MAY 2008)

     FILE 'MEDLINE, BIOSIS, WPIDS, USPATFULL, DGENE, EMBASE, BIOTECHDS'
     ENTERED AT 00:40:04 ON 12 MAY 2008
L1   31 S SACCHAROMYCES AND (PRODUCTION OF TRIACYLGLYCEROL)
L2   29 S L1 AND (FATTY ACIDS)
L3   16 S L2 AND (NUCLEIC ACID)
                E SAHLQVIST, A/AU
                E DAHLQVIST, A/AU
                E BANAS, A/AU

=> d l1 ti abs ibib 20-31

L1 ANSWER 20 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
AN AAB24265 Protein   DGENE
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from

phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents the yeast (Saccharomyces cerevisiae) PDAT ORF (open reading frame) amino acid sequence.

ACCESSION NUMBER: AAB24265 Protein DGENE
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2000060095 A2 20001012 97
APPLICATION INFO: WO 2000-EP2701 20000328
PRIORITY INFO: EP 1999-106656 19990401
EP 1999-111321 19990610
US 2000-180687 20000207
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-665012 [64]
CROSS REFERENCES: N-PSDB: AAC64440
DESCRIPTION: Saccharomyces cerevisiae PDAT ORF amino acid sequence SEQ ID NO:5a.

L1 ANSWER 21 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
AN AAB24262 Protein DGENE
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents the yeast (Saccharomyces cerevisiae) PDAT ORF (open reading frame) amino acid sequence.
ACCESSION NUMBER: AAB24262 Protein DGENE
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2000060095 A2 20001012 97
APPLICATION INFO: WO 2000-EP2701 20000328
PRIORITY INFO: EP 1999-106656 19990401
EP 1999-111321 19990610
US 2000-180687 20000207
DOCUMENT TYPE: Patent
LANGUAGE: English

OTHER SOURCE: 2000-665012 [64]
DESCRIPTION: Saccharomyces cerevisiae PDAT ORF amino acid sequence SEQ ID NO:1a.

L1 ANSWER 22 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
AN AAB24256 Protein DGENE
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents the yeast (Saccharomyces cerevisiae) PDAT protein.
ACCESSION NUMBER: AAB24256 Protein DGENE
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2000060095 A2 20001012 97
APPLICATION INFO: WO 2000-EP2701 20000328
PRIORITY INFO: EP 1999-106656 19990401
EP 1999-111321 19990610
US 2000-180687 20000207
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-665012 [64]
CROSS REFERENCES: N-PSDB: AAC64431
DESCRIPTION: Saccharomyces cerevisiae PDAT protein sequence SEQ ID NO:2.

L1 ANSWER 23 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.
AN ADU00561 DNA DGENE
AB The specification describes a method for increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material. The method comprises expressing an oil enhancing protein (OEP) in the plant organism, its tissue, organ, part, cell or propagation material, and selecting plant organisms having increased total oil content in contrast to or in comparison with the starting organism. The method and genetically modified plants are useful for producing oils, fats, free fatty acids, or their derivatives. PCR primers ADU00560-ADU00561 were used to amplify the coding region encoding OEP designated YPR140w, which enhances production of triacylglycerol . YPR140w can be used in the method of the invention to produce transgenic plants.
ACCESSION NUMBER: ADU00561 DNA DGENE
TITLE: Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises

expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.
INVENTOR: Cirpus P; Oswald O; Ronne H; Dahlqvist A; Lenman M; Neal A; Stahl U; Liu T; Banas A; Wiberg E
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2004092367 A1 20041028 76
APPLICATION INFO: WO 2004-EP3845 20040413
PRIORITY INFO: EP 2003-8909 20030416
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2004-766868 [75]
DESCRIPTION: PCR primer used to amplify OEP YPR140w coding region.

L1 ANSWER 24 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.
AN ADU00525 DNA DGENE
AB The specification describes a method for increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material. The method comprises expressing an oil enhancing protein (OEP) in the plant organism, its tissue, organ, part, cell or propagation material, and selecting plant organisms having increased total oil content in contrast to or in comparison with the starting organism. The method and genetically modified plants are useful for producing oils, fats, free fatty acids, or their derivatives. The present sequence encodes an OEP designated YPR140w, which enhances production of triacylglycerol. YPR140w can be used in the method of the invention to produce transgenic plants.
ACCESSION NUMBER: ADU00525 DNA DGENE
TITLE: Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.
INVENTOR: Cirpus P; Oswald O; Ronne H; Dahlqvist A; Lenman M; Neal A; Stahl U; Liu T; Banas A; Wiberg E
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2004092367 A1 20041028 76
APPLICATION INFO: WO 2004-EP3845 20040413
PRIORITY INFO: EP 2003-8909 20030416
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2004-766868 [75]
CROSS REFERENCES: P-PSDB: ADU00526
DESCRIPTION: Nucleotide sequence of oil enhancing protein (OEP) YPR140w.

L1 ANSWER 25 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.
AN ADU00560 DNA DGENE
AB The specification describes a method for increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material. The method comprises expressing an oil enhancing protein (OEP) in the plant organism, its tissue, organ, part, cell or propagation material, and selecting plant organisms having increased total oil content in contrast to or in comparison with the starting organism. The method and genetically modified plants are useful for producing oils, fats, free fatty acids, or their derivatives. PCR primers ADU00560-

ADU00561 were used to amplify the coding region encoding OEP designated YPR140w, which enhances production of triacylglycerol . YPR140w can be used in the method of the invention to produce transgenic plants.

ACCESSION NUMBER: ADU00560 DNA DGENE
TITLE: Increasing the total oil content in a plant organism, its tissue, organ, part, cell or propagation material comprises expressing a polypeptide, Ypr140w, in the plant organism, its tissue, organ, part, cell or propagation material.
INVENTOR: Cirpus P; Oswald O; Ronne H; Dahlqvist A; Lenman M; Neal A; Stahl U; Liu T; Banas A; Wiberg E
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2004092367 A1 20041028 76
APPLICATION INFO: WO 2004-EP3845 20040413
PRIORITY INFO: EP 2003-8909 20030416
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2004-766868 [75]
DESCRIPTION: PCR primer used to amplify OEP YPR140w coding region.

L1 ANSWER 26 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
AN AAC64451 DNA DGENE
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents a PCR primer for yeast (Saccharomyces cerevisiae) PDAT.

ACCESSION NUMBER: AAC64451 DNA DGENE
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2000060095 A2 20001012 97
APPLICATION INFO: WO 2000-EP2701 20000328
PRIORITY INFO: EP 1999-106656 19990401
EP 1999-111321 19990610
US 2000-180687 20000207
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-665012 [64]
DESCRIPTION: Saccharomyces cerevisiae PDAT PCR primer #2.

L1 ANSWER 27 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
AN AAC64450 DNA DGENE

AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents a PCR primer for yeast (Saccharomyces cerevisiae) PDAT.

ACCESSION NUMBER: AAC64450 DNA DGENE
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2000060095 A2 20001012 97
APPLICATION INFO: WO 2000-EP2701 20000328
PRIORITY INFO: EP 1999-106656 19990401
EP 1999-111321 19990610
US 2000-180687 20000207
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-665012 [64]
DESCRIPTION: Saccharomyces cerevisiae PDAT PCR primer #1.

L1 ANSWER 28 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
AN AAC64441 DNA DGENE
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents the yeast (Saccharomyces cerevisiae) PDAT gene.
ACCESSION NUMBER: AAC64441 DNA DGENE
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2000060095 A2 20001012 97
APPLICATION INFO: WO 2000-EP2701 20000328
PRIORITY INFO: EP 1999-106656 19990401
EP 1999-111321 19990610
US 2000-180687 20000207
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-665012 [64]

CROSS REFERENCES: P-PSDB: AAB24266
DESCRIPTION: Saccharomyces cerevisiae PDAT gene SEQ ID NO:1b.

L1 ANSWER 29 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
AN AAC64440 DNA DGENE
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence represents the yeast (Saccharomyces cerevisiae) PDAT ORF (open reading frame) nucleotide sequence.
ACCESSION NUMBER: AAC64440 DNA DGENE
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2000060095 A2 20001012 97
APPLICATION INFO: WO 2000-EP2701 20000328
PRIORITY INFO: EP 1999-106656 19990401
EP 1999-111321 19990610
US 2000-180687 20000207
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-665012 [64]
CROSS REFERENCES: P-PSDB: AAB24265
DESCRIPTION: Saccharomyces cerevisiae PDAT ORF nucleotide sequence SEQ ID NO:4a.

L1 ANSWER 30 OF 31 DGENE COPYRIGHT 2008 THE THOMSON CORP on STN
TI Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for transforming any cell or organism to increase oil content -
AN AAC64431 DNA DGENE
AB The present invention describes an enzyme for catalysing (in an acyl-CoA-independent reaction) the transfer of fatty acids from phospholipids to diacylglycerol in the biosynthetic pathway for the production of triacylglycerol (TAG). The enzyme is designated as phospholipid:diacylglycerol acyltransferase (PDAT). The enzyme and the nucleotides encoding them are useful for producing TAG and/or TAG with uncommon fatty acids. The enzyme and the nucleotide are also useful for transforming any cell or organism in order to be expressed in this cell or organism and result in an altered, preferably increased oil content of this cell or organism. The present sequence encodes yeast (Saccharomyces cerevisiae) PDAT.
ACCESSION NUMBER: AAC64431 DNA DGENE
TITLE: Phospholipid:diacylglycerol acyltransferase enzymes in the biosynthetic pathway for triacylglycerol production and DNAs encoding them, useful for producing triacylglycerol, or for

transforming any cell or organism to increase oil content -
INVENTOR: Dahlqvist A; Stahl U; Lenman M; Banas A; Ronne H; Stymne S
PATENT ASSIGNEE: (BADI)BASF PLANT SCI GMBH.
PATENT INFO: WO 2000060095 A2 20001012 97
APPLICATION INFO: WO 2000-EP2701 20000328
PRIORITY INFO: EP 1999-106656 19990401
EP 1999-111321 19990610
US 2000-180687 20000207
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-665012 [64]
CROSS REFERENCES: P-PSDB: AAB24256
DESCRIPTION: Saccharomyces cerevisiae PDAT gene SEQ ID NO:1.

L1 ANSWER 31 OF 31 BIOTECHDS COPYRIGHT 2008 THOMSON REUTERS on STN
TI Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content;
involving transgenic plant construction and tissue culture propagation
AN 2004-07840 BIOTECHDS
AB DERWENT ABSTRACT:
NOVELTY - Increasing total oil content in plant organism or tissue, organ, part, cell or its propagation material, by transgenic expressing triacylglycerols (TAG) synthesis enhancing protein (TEP) having fully defined sequence (S1) of 655 amino acids as given in specification from yeast in plant or in tissue, organ, part, cell or its propagation material, selecting plant having increased total oil content in comparison with control.

DETAILED DESCRIPTION - Increasing (M1) total oil content in plant organism or tissue, organ, part, cell or its propagation material, by transgenic expressing triacylglycerols (TAG) synthesis enhancing protein (TEP) (I) having a fully defined sequence (S1) of 655 amino acids as given in the specification from yeast in plant organism or in tissue, organ, part, cell or its propagation material, selecting plant organisms in which total oil content in plant organism or in tissue, organ, part, cell or its propagation material is increased in contrast to or comparison with starting organism. INDEPENDENT CLAIMS are also included for: (1) a transgenic expression cassette (II) comprising a nucleic acid sequence (S2) of YJR098c gene having fully defined sequence of 2439 nucleotides as given in the specification operable linked to a promoter, which is functional in a plant organism or a tissue, organ, part or its cell; (2) a transgenic vector (III) comprising (II) an expression an expression cassette; and (3) a transgenic plant organism or tissue, organ, part, cell or its propagation material comprising (I) or (II) or (III).

WIDER DISCLOSURE - (1) reducing TEP in a host cell or its progeny including genetically engineered oil seeds, yeast and moulds or any other oil-accumulating organism; and (2) elevating the production of triacylglycerol.

BIOTECHNOLOGY - Preferred Method: In (M1), the polypeptide from yeast has sequence (S1) or has functional equivalent amino acid sequence with at least 60% homology of (S1). The plant is an oil crop and the total oil content in the seed of a plant is increased. Preferred Expression Cassette: In (II), the nucleic acid sequence has sequence (S2) or sequence derived from (S2) in accordance with the degeneracy of the genetic code or sequence which has at least 60% identity with (S2). The promoter is a seed-specific promoter.

USE - (M1) is useful for increasing total oil content in plant organism or tissue, organ, part, cell or its propagation material. A transgenic plant organism chosen from oil crops consisting of Borvago

officinalis, Brassica campestris, B. napus, B. rapa, Cannabis sativa, Carthamus tinctorius, Cocos nucifera, Crambe abyssinica, Cuphea sp., Elaeis guinensis, E. oleifera, Glycine max, Gossypium hirsutum, G. barbadense, G. herbaceum, Helianthus annuus, Linum usitatissimum, Oenothera biennis, Olea europaea, Oryza sativa, Ricinus communis, Sesamum indicum, Triticum sp., Zea mays, walnut and almond or tissue, organ, part, cell or its propagation material is useful in the production of oils, fats, free fatty acids or its derivatives (all claimed). The transgenic plant is also useful for the production of food, feeds, seeds, pharmaceuticals, or fine chemicals, in particular for the production of oils.

ADVANTAGE - (M1) is efficient in increasing total oil content in organism or tissue, organ, plant, cell, or its propagation material.

EXAMPLE - Transgenic plants expressing YJR098c gene of tyriacylglycerols (TAG) synthesis enhancing protein (TEP) derived from Saccharomyces cerevisiae was generated as follows for induced high level expression of the YJR098c gene in plants, a PCR fragment (2409 base pair (bp)) was generated by the 5' primer (cttgtagaggtttgggga) and the 3' primer (tgaattgtcctcgctgtcaa) adding 29 bases upstream of the gene and 442 bases downstream of the gene. The gene was cloned into the SmaI site of the vapor pUC119 thus generating pUS 29. For Agrobacterium mediated plant transformation a binary vector system including the primary cloning vector pART7 with a CaMV35S promoter and a pART27 vector were used. The YJR098c fragment were excised from pUS 29 at the XbaI and SacI site and then blunted into the pART7 vector with either the CaMV35S promoter, generating pEW 17 or with the napin promoter, generating pEW 14. The entire cartridge including the promoter, the YJR098c gene and a transcriptional termination region were removed from the pART7 vector as a NotI fragment and introduced directly to the pART7 vector. The plasmid was transformed into A. tumefaciens. Plant of Arabidopsis thaliana were transformed with A. tumefacines GV3101 harboring either of the plasmids pEWART27-14 and pEWART27-17. Entire plant (inflorescence and rosette) were submerged for 20-30 second in the infiltration media consisting of 5% sucrose and 0.02% Silwet L-77 with resuspended transformed A. tumefaciens cells. Plant were then transferred to a growth chamber with a photoperiod of 16 hour of light at 21 degreesC and 8 hour of dark at 18degreesC (70% humidity). The seed oil content of T2 plants of the Arabidopsis transformants was analyzed by the use of conventional gas-liquid chromatography (GLC). As controls, seeds from wild type plants were used. The level of expression of the YJR098c gene in the seeds was determined by Northern blot analysis. The result of the measurement for the lines comprising the YJR098c construct showed a significantly higher total oil content in transgenic lines compared to the measurement of wild type plants.(46 pages)

ACCESSION NUMBER: 2004-07840 BIOTECHDS
TITLE: Increasing total oil content in plant or its propagation material, by transgenically expressing a triacylglycerol-synthesis enhancing protein from yeast in plant, and selecting plants having increased total oil content; involving transgenic plant construction and tissue culture propagation
AUTHOR: GIPMANS M; DAHLQVIST A; BANAS A; STAEHL U; WIBERG E; LENMAN M; RONNE H; STYMNE S
PATENT ASSIGNEE: BASF PLANT SCI GMBH
PATENT INFO: WO 2004007727 22 Jan 2004
APPLICATION INFO: WO 2003-EP7084 3 Jul 2003
PRIORITY INFO: EP 2002-15344 10 Jul 2002; EP 2002-15344 10 Jul 2002
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2004-122957 [12]

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